

Jan. 1893.

*Ephemeris of Juno, 1893.*

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*Ephemeris of Juno, near the time of Opposition, 1893; computed from the Corrected Elements published in "Monthly Notices," vol. l. p. 495.*

*(Communicated by the Superintendent of the "Nautical Almanac.")*

*At transit at Greenwich.*

Date.	Apparent Right Ascension.			Apparent Declination.	Date.	Apparent Right Ascension.			Apparent Declination.
	<sup>h</sup>	<sup>m</sup>	<sup>s</sup>			<sup>h</sup>	<sup>m</sup>	<sup>s</sup>	
Jan. 7	10	8	27.99	S. 0° 11' 53".1	Feb. 8	9	48	4.40	N. 3° 17' 26".7
8	10	8	9.88	0 8 58.8	9	9	47	13.34	3 27 3.9
9	10	7	50.14	0 5 49.5	10	9	46	22.19	3 36 47.4
10	10	7	28.78	S. 0 2 24.9	11	9	45	31.02	3 46 36.7
11	10	7	5.82	N. 0 1 14.9	12	9	44	39.91	3 56 31.3
12	10	6	41.28	0 5 10.0	13	9	43	48.93	4 6 30.7
13	10	6	15.18	0 9 20.3	14	9	42	58.13	4 16 34.2
14	10	5	47.55	0 13 45.9	15	9	42	7.61	4 26 41.0
15	10	5	18.42	0 18 26.6	16	9	41	17.43	4 36 50.8
16	10	4	47.82	0 23 22.4	17	9	40	27.66	4 47 2.9
17	10	4	15.78	0 28 33.1	18	9	39	38.37	4 57 16.7
18	10	3	42.33	0 33 58.7	19	9	38	49.62	5 7 31.5
19	10	3	7.53	0 39 39.0	20	9	38	1.48	5 17 46.9
20	10	2	31.42	0 45 33.9	21	9	37	14.02	5 28 2.2
21	10	1	54.04	0 51 43.0	22	9	36	27.30	5 38 16.9
22	10	1	15.43	0 58 6.3	23	9	35	41.36	5 48 30.4
23	10	0	35.66	1 4 43.3	24	9	34	56.26	5 58 42.2
24	9	59	54.76	1 11 34.0	25	9	34	12.08	6 8 51.8
25	9	59	12.78	1 18 38.0	26	9	33	28.85	6 18 58.6
26	9	58	29.80	1 25 55.0	27	9	32	46.62	6 29 2.1
27	9	57	45.86	1 33 24.6	28	9	32	5.43	6 39 2.0
28	9	57	1.00	1 41 6.4	Mar. 1	9	31	25.34	6 48 57.7
29	9	56	15.27	1 49 0.3	2	9	30	46.39	6 58 48.9
30	9	55	28.75	1 57 5.8	3	9	30	8.61	7 8 35.0
31	9	54	41.51	2 5 22.5	4	9	29	32.04	7 18 15.7
Feb. 1	9	53	53.58	2 13 49.9	5	9	28	56.72	7 27 50.6
2	9	53	5.04	2 22 27.8	6	9	28	22.68	7 37 19.3
3	9	52	15.94	2 31 15.5	7	9	27	49.95	7 46 41.4
4	9	51	26.36	2 40 12.8	8	9	27	18.56	7 55 56.6
5	9	50	36.35	2 49 19.0	9	9	26	48.54	8 5 4.7
6	9	49	45.98	2 58 33.7	10	9	26	19.92	8 14 5.3
7	9	48	55.30	N. 3 7 56.5	11	9	25	52.72	N. 8 22 58.1

Date.	Apparent Right Ascension.			Apparent Declination.	Date.	Apparent Right Ascension.			Apparent Declination.
	h	m	s	N. ° ' "		h	m	s	N. ° ' "
Mar. 12	9	25	26.97	N. 8 31 42.8	Apr. 15	9	25	56.60	N. 11 51 53.0
13	9	25	2.69	8 40 19.2	16	9	26	22.58	11 54 48.1
14	9	24	39.89	8 48 47.0	17	9	26	49.84	11 57 33.5
15	9	24	18.62	8 57 6.0	18	9	27	18.34	12 0 9.2
16	9	23	58.87	9 5 15.8	19	9	27	48.07	12 2 35.2
17	9	23	40.65	9 13 16.3	20	9	28	19.01	12 4 51.8
18	9	23	23.99	9 21 7.5	21	9	28	51.14	12 6 58.9
19	9	23	8.88	9 28 49.0	22	9	29	24.43	12 8 56.7
20	9	22	55.34	9 36 20.7	23	9	29	58.87	12 10 45.2
21	9	22	43.39	9 43 42.5	24	9	30	34.42	12 12 24.6
22	9	22	33.01	9 50 54.1	25	9	31	11.09	12 13 54.9
23	9	22	24.20	9 57 55.6	26	9	31	48.84	12 15 16.3
24	9	22	16.97	10 4 46.9	27	9	32	27.64	12 16 28.8
25	9	22	11.30	10 11 27.9	28	9	33	7.48	12 17 32.6
26	9	22	7.20	10 17 58.5	29	9	33	48.35	12 18 27.8
27	9	22	4.66	10 24 18.8	30	9	34	30.22	12 19 14.5
28	9	22	3.67	10 30 28.6	May 1	9	35	13.06	12 19 52.7
29	9	22	4.22	10 36 27.9	2	9	35	56.86	12 20 22.6
30	9	22	6.29	10 42 16.7	3	9	36	41.60	12 20 44.2
31	9	22	9.88	10 47 55.2	4	9	37	27.27	12 20 57.7
Apr. 1	9	22	14.97	10 53 23.2	5	9	38	13.85	12 21 3.1
2	9	22	21.55	10 58 40.8	6	9	39	1.32	12 21 0.5
3	9	22	29.60	11 3 47.9	7	9	39	49.67	12 20 50.0
4	9	22	39.12	11 8 44.7	8	9	40	38.87	12 20 31.7
5	9	22	50.10	11 13 31.0	9	9	41	28.91	12 20 5.6
6	9	23	2.52	11 18 7.0	10	9	42	19.79	12 19 32.0
7	9	23	16.36	11 22 32.7	11	9	43	11.48	12 18 50.8
8	9	23	31.61	11 26 48.2	12	9	44	3.97	12 18 2.0
9	9	23	48.25	11 30 53.4	13	9	44	57.23	12 17 5.8
10	9	24	6.28	11 34 48.5	14	9	45	51.27	12 16 2.4
11	9	24	25.67	11 38 33.4	15	9	46	46.06	12 14 51.7
12	9	24	46.41	11 42 8.3	16	9	47	41.58	12 13 33.9
13	9	25	8.50	11 45 33.1	17	9	48	37.83	N. 12 12 9.0
14	9	25	31.90	N. 11 48 48.0					

"Nautical Almanac" Office :  
1893 January 5.

*Ephemerides of the Five Inner Satellites of Saturn, 1893.*

By A. Marth.

The results of the measures which may have been made during last year's important apparition of *Saturn* not being yet available, the present ephemerides are founded upon the same elements, except that of the longitude of the central meridian.

In the following tables  $P$  denotes the position-angle of the axis of *Saturn*;  $L + 180^\circ$  the planetocentric longitude of the Earth referred to the assumed fundamental plane;  $\Lambda + 180^\circ$  that of the Sun, or  $\Lambda - L$  the difference between the two.  $B$  and  $B$  denote the planetocentric latitude of the Earth and Sun above the fundamental plane.

Mr. A. S. Williams's observations of a series of surface markings indicate that their rate of motion has varied considerably from that of the preceding year, and that for the present the identification of the various markings is quite doubtful. Nevertheless, I have thought it better not to fail to give facilities to observers by furnishing in the last column the longitude of *Saturn's* central meridian corresponding to the motion of the most frequently observed markings. The adopted daily rate of rotation is  $844^\circ.80$ , corresponding to a period of  $10^h 13^m.64$ .